

CLAIMS

1) **SEMI-AUTOMATIC DISPENSER FOR DISPOSABLE CUPS**, characterized by the fact of comprising a semi-automatic dispensing mechanism (1), defined as a box exhibiting an half moon or semi-circular shape (2), whose straight section is facing the rear side, where it includes a fastening plate (3) for the ensemble in an adequate place, whilst the curved section is facing the front, and its superior section includes a vertically assembled tubular drawer (4), which should be preferably transparent, with a top lid (5), configuring the compartment for several usual disposable cups, arranged with their mouths facing downwards, seeing that the bottom of this compartment is axially aligned with another ordinarily tubular and vertical section (6), which constitutes the exit for the cups to be dispensed by the semi-automatic dispensing device (1), which, by its turn, comprises one box exhibiting an half moon or semi-circular shape (2), defined by an horizontally plane superior wall (7), semi-circular, contoured by a substantially short vertical wall (8), under which fits itself another plane section comprised of a plate exhibiting an half moon shape (9), which by its turn, closes the semi-circular box (2), but, above this mentioned plate (9), exists another sliding diaphragm-plate (10) which, at its rear edge, includes an articulation bolt (11), and at its front edge exhibits an extension which configures the digital handle (12), radially projected to the outside through a slot (13) formed by a cutting in the wall (8) exhibiting sufficient extension so that the mentioned diaphragm-plate (10) can be moved from one side to the other, establishing or not the alignment between its circular opening (14) and two other circular openings (15) and (16), that exist in the wall (7) and in the closure section (9), which are respectively aligned with the tubular compartment (4) and the tubular exit (6), seeing that the alignment of the opening (14) is established by the slot (13), whose length is also sufficient for the diaphragm-plate (10) to be displaced so that its blind section (17) can be placed between both circular openings (15) and (16), further, over the diaphragm-plate (10) is fastened a

part exhibiting an horseshoe shape (18), whose open ends or extremities - besides having their heights funnel-shaped - face the blind section (17), while in the opposite side, great part of its extension contours the mentioned opening (14), and this mentioned horseshoe (18) exhibits the whole extension of its internal border contoured by a tread or progressive advanced border (19), which separates the cup to be dispensed in the inner side of the tubular section (6) exhibiting the shape of an half tube, with a narrower bottom end, over which exists median peg (20) responsible for the reversing of the cup from the upside down position to the upright position.

10 2) **SEMI-AUTOMATIC DISPENSER FOR DISPOSABLE CUPS**, according to claim 1 characterized by the fact that, in an adequate point of the diaphragm-plate (10) and the inner side of the box (2) is included an adequate spring (21), which maintains the mentioned diaphragm-plate (10) strained, so that it can be secured in the position with its blind section (17) between the 15 openings (15-16).

3) **SEMI-AUTOMATIC DISPENSER FOR DISPOSABLE CUPS**, according to claim 1, characterized by the fact that, in another preferred concretion, it comprises:

- a) a semi-automatic dispensing mechanism (50), defined as a box exhibiting 20 parallelepipedic shape (51) and reduced height, whose rear section includes fastening means (52) for the ensemble in appropriate place;
- b) a tubular drawer (53), preferably transparent, with a top lid (54), which configures the compartment for several usual disposable cups (C), arranged in form of a stack with their mouths facing downwards;
- c) the mentioned box (51) having an upper wall (55) exhibiting a central 25 opening (56), whose upper side includes a fitting and fastening collar (57) for the corresponding extremity of the drawer (53), whilst the bottom side exhibits a semi-circular collar (58), which corresponds to the axial passage (P) for the cups (C) to be dispensed;
- d) a rectangular lid (59) with adequate fastening means to close the bottom 30

section of the box (51);

e) the rectangular lid (59) exhibits a circular central opening (60), where one side of this opening is axially aligned with the upper opening (56), whilst the bottom side includes a collar (61) forming the continuity of the passage (P) - or exit - for the cups to be dispensed by the semi-automatic dispensing device (1);

f) a receiving drawer (62) for the dispensed cups (C) exhibiting an ordinary tubular shape, whose upper extremity is connected to the collar (61);

g) a diaphragm (63) assembled in a sliding way in the inner section of the box (51), formed by a plate (64) in which one extremity exhibits a blind section (65), whilst in the opposite extremity exhibits a section with an opening (66), whose diameter is compatible with the openings (56-60) and with the mouth diameter of the cup (C) to be dispensed. The mentioned blind section (65) is cooperative so that it can be positioned in two ways, outside or between the two openings (56-60), so that in the second position it actuates as closing and support for the stack of cups (C) to be dispensed, whilst the hollowed out section (66) can also be positioned in two ways, outside or between the openings (56,60), so that in the second position occurs a perfect axial alignment between the openings (56), (60) and (66), so that the cup (C) to be dispensed is able to pass through the inner section of the receiving drawer (62);

h) an horseshoe shaped part (67) is fitted over the diaphragm (63), and a portion of this horseshoe contours the opening (66) in a relation opposed to the collar (58), with which it combines to form a circular passage section (P) for the cup to be dispensed, further, the mentioned horseshoe exhibits cooperative internal means (68) that, concomitantly, separate the first bottom cup (C1) to be dispensed while retaining the other cups (C2) when the diaphragm (63) is moved aligning the openings (56), (60) and (66);

4) SEMI-AUTOMATIC DISPENSER FOR DISPOSABLE CUPS,

according to claim 3, characterized by the fact that, the bottom edges from the

front (69) and rear (70) walls of the box (51) exhibit internal steps (71-72), being the first one is responsible for the fitting and fastening of the lid (59) and the second forming the slider for the diaphragm (63).

5) SEMI-AUTOMATIC DISPENSER FOR DISPOSABLE CUPS,

according to claim 3, characterized by the fact that, the diaphragm (63), or its plate (64), exhibits a front extension configuring an handle (73), which trespasses a longitudinal slot (74) in the front wall (69), and is sufficiently exposed so that the mentioned diaphragm can be displaced in both directions, and along the sliders or step (72).

10 6) SEMI-AUTOMATIC DISPENSER FOR DISPOSABLE CUPS,

according to claim 3, characterized by the fact that, the diaphragm (63) is usually maintained strained with its blind section (65) between the openings (56) and (60) due to existence of two springs (75), one at each side, seeing that these springs have one of their extremities connected to pins (76) in the plate (64), whilst the opposite extremities are connected to other pins (77) in the inner section of the lid (59).

7) SEMI-AUTOMATIC DISPENSER FOR DISPOSABLE CUPS,

according to claim 3, characterized by the fact that, in a first constructive version, the horseshoe shaped part (67) has its branches (78) parallel one to the other and coinciding with the curved or semi-circular section (79), seeing that this section and the branches (78) have coplanar bottom faces, however, in the upper section, the parallel branches (78) exhibit decreasing inclined faces (80), and in the inner face (81) of the mentioned horseshoe shaped part (67) are developed the means (68) for cups separation, which exhibit the shape of a rim or rib having an horizontal section (82) which, by its turn, extends itself through the curve (79) and an inclined section (83) which accompanies the face (80) inclination, so that the free extremities of the sections (83) can remain aligned enabling them to penetrate as a fork in the space (E) surrounding the rounded borders between the first cup (C1) and the second cup (C2), further, the diaphragm (63) is moved in direction of the

arrow (S), where the inclination of the sections (83) is sufficient to separate the cup (C1) from the other cups (C2) and liberate the first cup through the passage (P) whilst the others remain leaned against the rim (68).

8) SEMI-AUTOMATIC DISPENSER FOR DISPOSABLE CUPS,

5 according to claim 3, characterized by the fact that, the distance (d) between the free extremities of the sections (78) or terminals of the section (83) of the rim (68) is slightly smaller than the cups (C) diameter, so that it can have its circular wall slightly pressed, sufficient to promote its displacement in relation to the next cup, favoring its release through free fall through the
10 passage (P).

9) SEMI-AUTOMATIC DISPENSER FOR DISPOSABLE CUPS,

according to claim 3, characterized by the fact that, in a constructive variation, the terminals (78) of the horseshoe shaped part (67) exhibit their
15 upper face (84) parallel to the bottom face, the other constructive details remaining unchanged, and, in this case, the height (y) renders only to guide a greater number of cups (C) during diaphragm operation (63).

10) SEMI-AUTOMATIC DISPENSER FOR DISPOSABLE CUPS,

according to claim 3, characterized by the fact that, the upper extremity of the drawer (62) exhibits a tubular shape (85) to be connect to the collar (61),
20 seeing that under this section (85), it exhibits a longitudinal cut having semi-circular shape, but with a sufficient radius that enables the greater diameter (mouth) of the cup (C) to be maintained imprisoned, whilst its smaller diameter (bottom) is launched to the outside, when the mentioned cup touches a median peg (86) that can be found in the inner section of the drawer (62),
25 where the mentioned cup suffers a 180° rotation and is maintained in this position in the bottom extremity of the mentioned drawer (62), which with this purpose, exhibits the bottom extremity in a slightly smaller diameter than the greater diameter of the cup (C), so that the cup remains with its mouth slightly fastened by this bottom extremity of the drawer (62), whilst the rest of
30 its body remains exposed, so to be easily removed by the user.

11) **SEMI-AUTOMATIC DISPENSER FOR DISPOSABLE CUPS**, according to claim 3, characterized by the fact that, the holder (52) being integrated with a pedestal or base (not illustrated), enabling the ensemble to be placed over any plane.